tion occurs commonly, and not as recently suggested, when the limb is abducted, but when the thigh is adducted, flexed and inverted. (3). That the dislocation is not indirect, but direct, the head of the bone being driven through the capsule at the lower and back part of the joint, and then carried up to a variable extent by the force which caused the dislocation. Mr. Morris agrees with the first and third conclusions if the word "indirect" and "direct" be transposed in the third. He quite denies the second conclusion. Prof. Humphry says that the probabilities are, of course, that the limb will be in an habitual or natural position when an accident occurs, and the position of flexion, adduction, and inversion, is both an habitual position and is one in which the head of the bone is pressed against the part of the capsule (the under and back part)." Mr. Morris contends that abduction is a usual and natural position, and also that in that position the head of the femur is pressed against the thin part of the capsule. Mr. Morris cites cases in which the accident did occur during abduction of the limb. He finally points out how the recognition of the fact that the injury which dislocates the femur onto the dorsum ilii acts indirectly on the bone influences our employment of manipulation in its reduction to the exclusion of the old method of reduction by direct means, viz., the use of pulleys.

H. H. TAYLOR (London).

II. A New Method of Immediate Retention in Fractures of the Tubular Bones. By DR. H. BIRCHER (Bern). Despite our very complete methods of treating fractures there are cases that resist every effort, and even though reduction is accomplished it cannot be retained either by dressings or weights. This is especially the case where the soft parts are not in condition to bear the pressure of a dressing or there is no suitable chance to apply extension. Here direct instead of mediate retention must be practiced. Various methods of achieving this have been used: Malgaigne's hook's, Dieffenbach's metal plugs with circumvolute suture, screws, bone suture, etc. Such methods have, however, rarely been applied to fresh fractures. Within a few years B. has treated a number of fractures of the lower extremity after another plan. This consists in the introduction of ivory plugs into the marrow cavity of the diaphysis-ends, or in case of the epiphyses in the application of an H-shaped ivory clamp to the bone walls.

1. Man of 36. Simple fracture in diaphysis of left femur with large extravasation. Slight consolidation after three weeks; the hematoma not resorbed; 5 ctm. shortening. The injury was then exposed, the hematoma cleaned out, bone edges smoothed, a plug introduced, and a capsular dressing applied. Good consolidation in four weeks. Removal of the plug by chiseling out an opening in the front wall of the fractured part. Cured in 69 days, with scarcely 1 ctm. shortening.

2. Drinker of 36 years. Compound oblique fracture of leg. Ligature of the anterior tibial artery for hemorrhage. Neither a retentive dressing nor extension was possible. An ivory plug was introduced and a capsular bandage applied. No fever. Slow consolidation. Plug removed in four weeks. Discharge with a small fistula, but no shortening at end of four and a half months.

3. Woman of 22. Compound fracture in lower third of left leg. Much contusion and infiltration. Antiseptic dressing and extension. Inflammation and necrosis at seat of injury. No consolidation, but marked shortening after three weeks. Ivory plug, etc. Fever, pain and suppuration were thus relieved. Plug removed in four weeks. First attempt at walking toward end of third month. Firm union. No shortening.

4. Man of 45. Compound comminuted fracture of left leg with much contusion. Suppuration set in. Operated five days later. The blood clots and a free piece of tibia were removed. The remaining bone was fissured, and at its lower end dislocated. After some smoothing of the surfaces an ivory plug was introduced. Consolidation despite suppuration. Plug removed in three weeks. Some further pieces of the tibia came away, but a good cure with scarcely 2 ctm. shortening was achieved after several months.

5. Man of 24. Compound fracture of lower epiphysis and diaphysis of left leg, passing up and outwards from the internal malleolus. The soft parts were greatly contused. Inflammation developed at the point of injury. He grooved the spongy bone—as there was no

marrow cavity at this point—and applied the ivory clamp. This was removed in five weeks. First attempt at walking in three months. No functional loss.

The ivory does not irritate as it is immobile. Indications: (1). Compound fractures with rebellious dislocation which cannot be corrected by dressings or extension. (2.) Simple fractures (pseudarthroses) in which mediate retention does not succeed.

Although he was unable to find like published cases, yet Volkmann had informed him of three cases of pseudarthroses in which he had followed a similar plan with success, with the difference that he had allowed the plugs to remain.—*Arch. f. kln. Chirg.*, 1886, Bd. 34, Hft. 2.

WM. BROWNING (Brooklyn).

III. On Some Elements of Success in Excision of the Knee-joint. By W. THORNLEY STOKES, F. R. C. S. T. The author divides the flaps in the middle line as high as the synovial pouch extends, in order to thoroughly remove the latter with knife, scissors and spoon.

To avoid oozing after the operation, and consequent early change of dressings, Esmarch's bandage is not to be used, nor any tourniquet.

In order to attain more perfect fixation of femur to tibia, two silver dowels are thrust through the tibia on each side of its tubercle upwards, backwards and outwards into the femur nearly to its popliteal surface; these are withdrawn in two or three weeks.—*Brit. Med. Jour*, April 2, 1887.

A. F. STREET (Westgate).

IV. A Method of Fixing the Bones in the Operation of Excision of the Knee-joint. By HOWARD MARSH (London). The author remarks that in putting up an excision of the knee, the surgeon has not only to guard against the shifting of the tibia on the femur that may be produced by the movements of a restless patient, by spasmodic action of the muscles, or by the disturbance of the limb